

("Kazerooni"). The Examiner additionally rejected claims 4, 5, 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Kazerooni. The Examiner also objected to claim 5 under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants respectfully traverse the rejection of these claims for the following reasons.

1. Response to Rejection of Independent Claim 1

Applicants' claim 1 is directed to an intelligent trolley module for use in an assist system. According to Applicants' independent claim 1, the intelligent trolley module includes a "plurality of wheels" and "an actuator driving at least one of the wheels." The wheels and actuator in Applicant's trolley system allow an attached load to move horizontally.

Kazerooni, however, only describes a lift system that may be used to assist a human in lifting a load. In Kazerooni, an end-effector 14 connects to an actuator 12 via a line 13. The end-effector 14 also connects to a load, and it includes a human interface subsystem 15 that allows an operator to move the load up or down. Thus, Kazerooni only describes a lift for moving a load in vertically. It does not describe the trolley system claimed by Applicants.

As Kazerooni only discloses a lift system that is not capable of horizontal movement, it lacks the "plurality of wheels" and the "actuator driving at least one of the wheels" limitations of Applicants' claim 1. The Examiner contends that Kazerooni discloses "a plurality of wheels (71)" and "an actuator for driving at least one of the wheels (12)"; however, the elements in Kazerooni identified by the Examiner do not match with the corresponding function identified by the Examiner. For example, while the Examiner contends that element 71 in Kazerooni is a plurality of wheels, Kazerooni actually describes a "[f]orce sensor 71" (col 15, line 52).

Additionally, while the Examiner contends that element 12 in Kazerooni is an actuator for driving at least one of the wheels, Kazerooni actually describes an actuator for use in raising or lowering a line, and thereby also the load connected to the line (col. 5, lines 45-48). The actuator in Kazerooni does not drive at least one of a plurality of wheels for horizontal motion.

As claim 1 contains a limitation neither taught nor suggested by Kazerooni, claim 1 is therefore allowable. Claims 2-4 and 5-11, which depend from claim 1, are also allowable.

2. Response to Rejection of Independent Claim 12

Applicants' independent claim 12 is directed to an intelligent lift module for use in an assist device. As claimed, Applicants' intelligent lift module includes "a communication interface providing input/output communication with other modules." Referring to Applicants' specification for one exemplary description of interconnected modules:

Figure 1 is a high-level block diagram illustrating an exemplary modular architecture. The described modular architecture includes the interconnection of modules such as a trolley 101, lift 103, sensor 107, hub 105, intent sensor 109, and user tooling 111 via computation nodes 102, 104 and 106 to plant information system such as a plant network 108 and user-supplied or system-integrator-supplied components such as computer 110." (page 15).

Kazerooni, however, discloses a lift system where a user interface sub system of an end-effector communicates with an actuator to raise or lower a load. Kazerooni only discloses a single module – the lift system. Therefore, Kazerooni does not disclose a communication interface providing input/output communication with other modules. As Kazerooni describes a single module lift system, there is no incentive to modify Kazerooni to include other modules,

and, therefore, also no incentive to modify Kazerooni to include a communication interface providing input/output to other modules.

As claim 12 contains a limitation neither taught nor suggested by Kazerooni, claim 12 is therefore allowable. Claims 13-23, which depend from claim 12, are also allowable.

3. Response to Rejection of Independent Claim 24

Applicants' independent claim 24 is directed to an input device for use in an assist system. As claimed, "the input device is in communication with a multi-function hub...." Kazerooni, however, does not describe a hub. In Kazerooni, the user controllable end-effector connects directly to the actuator. It does not connect to a hub. Thus, Kazerooni does not disclose an input device in communication with a hub.

As Claim 24 contains a limitation neither taught nor suggested by Kazerooni, Claim 24 is therefore allowable. Claims 25-29, which depend from claim 24, are also allowable.

4. Response to Objections to Claim 5

Claim 5 has been cancelled. Applicant respectfully requests that the Examiner withdraw the 37 C.F.R. 1.75(c) objection to claim 5.

5. Conclusion

Applicant respectfully submits that all pending claims 1-4 and 6-29 are allowable. Independent claims 1, 12 and 24 are allowable for the reasons previously explained. Therefore,

dependent claims 2-4, 6-11, 13-23 and 25-29 are also allowable. Applicant submits that the application is in condition for allowance and respectfully requests early notice to this effect.

If any questions or issues remain, the Examiner is invited to immediately contact the undersigned attorney, Brian Harris, at his direct dial number (312) 913-3303.

Respectfully submitted,

**McDONNELL BOEHNEN
HULBERT & BERGHOFF**

Date:

11/22/02

By:

B. R. Harris

Brian R. Harris
Reg. No. 45,900